

generally rotates as the light guide moves to change a direction in which light is emitted, when scanning a region of interest.

13. The apparatus of claim 1, wherein the light guide comprises a first thin film optical waveguide disposed at the distal end of the light guide so that the light emitted by the at least one light source passes through the first thin film optical waveguide and is thus adapted to be directed onto a region of interest.

14. The apparatus of claim 13, wherein the scanning actuator is disposed adjacent to the first thin film optical waveguide and moves the first thin film optical waveguide, being thereby adapted to cause the light to scan a region of interest.

15. The apparatus of claim 13, wherein the light guide comprises a second thin film optical waveguide disposed at the distal end of the light guide and moved generally in parallel with the first thin film optical waveguide and thereby adapted to scan a region of interest in parallel with the first thin film optical waveguide.

16. The apparatus of claim 13, wherein the thin film optical waveguide has a cross-sectional size less than 0.01 mm.

17. The apparatus of claim 3, further comprising a polarizing filter adapted to be disposed between at least one of:

- (a) the at least one light source and a region of interest, so that a region of interest is illuminated with a polarized illumination light; and
- (b) the region of interest and at least one light sensor.

18. The apparatus of claim 17, wherein the light detector detects polarized light having a predefined axis of polarization.

19. The apparatus of claim 1, wherein the at least one light source is adapted to provide at least one of a visible light, an ultraviolet light, and an infrared light to illuminate a region of interest.

20. The apparatus of claim 19, wherein the light detector is responsive to at least one of a visible light, an ultraviolet light, and an infrared light.

21. The apparatus of claim 1, wherein the light detector is responsive to light emitted from a region of interest due to one of phosphorescence and fluorescence.

22. The apparatus of claim 1, further comprising at least one of a spectrophotometer and a spectrum analyzer coupled to the light detector for use in diagnosing a condition of a region of interest.

23. The apparatus of claim 1, further comprising a thermal detector coupled to one of the proximal and distal ends of the light guide for use in monitoring a temperature in a region of interest.

24. The apparatus of claim 1, wherein the display comprises a stereo display that enables a user to visualize a pseudo-stereo image of a region of interest.

25. The apparatus of claim 1, further comprising means for guiding and maneuvering the distal end of the light guide to a region of interest within a patient.

26. The apparatus of claim 1, further comprising a balloon disposed adjacent to the distal end of the light guide, said balloon being adapted to stabilize the distal end of the light guide in a cavity within a patient when the balloon is inflated.

27. The apparatus of claim 1, further comprising electrical leads that extend along the light guide, to its distal end, said electrical leads being connected to the scanning actuator to energize it.

28. A method for using an integral light guide system to selectively image and carry out at least one other substantive function in connection with a region of interest in a patient, said method comprising the steps of:

- (a) directing a light at the region of interest in the patient through a light guide;
- (b) scanning the region of interest with the light and the alternative light by moving the light guide;
- (c) detecting light from the region of interest and in response thereto, producing signals indicative of characteristics of said light, including an intensity of the light received from the region of interest;
- (d) imaging the region of interest, using the signals produced by the step of detecting; and
- (e) controlling the administration of the light to the region of interest through the light guide, to selectively carry out at least one of the steps of:
 - (i) monitoring the region of interest;
 - (ii) determining a biophysical condition of the region of interest; and
 - (iii) rendering therapy to the region of interest with the light directed thereon.

29. The method of claim 28, further comprising the step of receiving light from the region of interest at a plurality of spaced-apart locations, said step of imaging comprising the step of enabling a user to visually perceive a pseudo-stereo image of the region of interest.

30. The method of claim 28, wherein the step of scanning comprises the step of causing the light guide to move so that the light emitted from the light guide scans over the region of interest in two generally orthogonal directions.

31. The method of claim 28, wherein the step of scanning comprises the step of causing the light guide to move so that the light emitted from the light guide scans over the region of interest in a helical arc.

32. The method of claim 28, wherein the step of scanning comprises the step of causing the light guide to move so that the light emitted from the light guide scans the region of interest in at least one of:

- (a) generally concentric circles of different radii; and
- (b) a propeller scan mode.

33. The method of claim 28, further comprising the step of focusing the light onto the region of interest through a lens.

34. The method of claim 33, further comprising the step of mounting the lens at a distal end of the light guide.

35. The method of claim 34, wherein the lens is of sufficient mass that as the light guide moves, the lens is rotated about a center of the lens, but otherwise remains generally fixed.

36. The method of claim 28, wherein a distal end of the light guide comprises a thin film optical waveguide, said step of scanning comprising the step of causing the thin film optical waveguide to move so that light emitted thereby is scanned over the region of interest.